

IN THE CLAIMS:

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1. - 31. (Canceled)

32. (New) Method for grinding bearings and cams of an assembled camshaft and straightening the assembled camshaft, comprising grinding the bearings and the cams of the assembled camshaft on a grinding machine and straightening the assembled camshaft on said grinding machine.

33. (New) Method according to claim 32, wherein the grinding comprises finish grinding the bearings and rough grinding and finish grinding the cams and the straightening is subsequent to the finish grinding of the bearings and/or the rough grinding of the cams and/or the finish grinding of the cams.

34. (New) Method according to claim 33, wherein said finish grinding of the bearings and said rough grinding and said finish grinding of the cams and said straightening are carried out in a single chucking.

35. (New) Method according to claim 32 or 33, wherein the rough grinding of the bearings is carried out at a first station of the grinding machine and the rough grinding and finish grinding of the cams are carried out at a second station of the grinding machine.

36. (New) Method for grinding bearings and cams of an assembled camshaft and straightening the assembled camshaft, comprising finish grinding the bearings of the assembled camshaft on a first grinding machine and then straightening the assembled camshaft on the first grinding machine and rough grinding and finish grinding the cams of the assembled camshaft on a second grinding machine.

37. (New) Method for grinding bearings and cams of an assembled camshaft and straightening the assembled camshaft, comprising finish grinding the bearings of the assembled camshaft on a first grinding machine, rough grinding and finish grinding the cams of the assembled camshaft on a second grinding machine and, after the rough grinding and the finish grinding of the cams, straightening the assembled camshaft on the second grinding machine.

38. (New) Method according to claim 37, wherein the rough grinding of the cams is carried out at a first station of the second grinding machine and the finish grinding of the cams is carried out at a second station of the second grinding machine.

39. (New) Method according to claim 36 or 37, further comprising supporting the camshaft during the grinding of the bearings by bringing supports into engagement with the camshaft in the vicinity of the bearings and disengaging the supports from the camshaft for the straightening.

40. (New) Method according to claim 39, wherein the engaging of the camshaft with the supports is carried out after the rough grinding of the cams and before the finish grinding of the cams.

41. (New) Method according to claim 39, wherein the supporting of the camshaft during the grinding of the bearings and the disengaging of the supports from the camshaft for the straightening comprise engaging at least a center area of the camshafts with the supports during the rough grinding of the cams, then, prior to the straightening, disengaging the supports from at least a center area of the camshaft for the straightening, thereafter again bringing the supports into

engagement with the camshaft in the vicinity of the bearings and carrying out the finish grinding of the cams.

42. (New) Method according to claim 32, 36 or 37, further comprising, prior to the straightening, measuring a concentricity value or concentricity deviation value for at least one bearing in a center area of the camshaft.

43. (New) Method according to claim 42, wherein the straightening is carried out based on the measured concentricity value or concentricity deviation value.

44. (New) Method according to claim 32, 36 or 37, further comprising rotating the camshaft at 50 to 200 revolution per minute during the straightening.

45. (New) Method according to claim 44, further comprising applying compressive force to the camshaft in an area of a center bearing thereof during the straightening.

46. (New) Method according to claim 43, wherein the straightening is carried out while the camshaft is stationary and the bearing having the greatest deviation from concentricity is determined and a compressive force is applied to said least concentric bearing in a radial direction at a circumferential position at which the greatest deviation from concentricity occurs.

47. (New) Method according to claim 32, 36 and 37, wherein the camshaft comprises a steel tube and includes a bend to be eliminated by the straightening and the straightening comprises subjecting the camshaft to pressure at least by area beyond the yield point of the steel of said steel tube thereby to gradually essentially completely remove the bend.

48. (New) Method according to claim 35, wherein the straightening is carried out at the first station.

49. (New) Method according to claim 38, wherein the straightening is carried out at the first station.

50. (New) Method according to claim 35, wherein the straightening is carried out at the second station.

51. (New) Method according to claim 38, wherein the straightening is carried out at the second station.

52 (New) Method according to claim 48, wherein the straightening is carried out also at the second station.

53. (New) Method according to claim 49, wherein the straightening is carried out also at the second station.

54. (New) Apparatus for grinding bearings and/or cams of an assembled camshaft and straightening the assembled camshaft, comprising a grinding machine and, integrated into the grinding machine, a device for straightening the assembled crankshaft after the grinding.

55. (New) Apparatus according to claim 54, further comprising, integrated into the grinding machine, a concentricity measuring device for measuring concentricity or concentricity deviation of said camshaft.

56. (New) Apparatus according to claim 55, wherein the grinding machine further comprises a machine bed, a grinding headstock mounted to the

machine bed and having at least two grinding wheels each mounted for pivoting into a grinding positive, and a workpiece headstock and a workpiece tailstock each having a center between which centers the camshaft is grippable, said concentricity measuring device being attached to said grinding headstock or to said machine bed and said straightening device being attached to said grinding headstock.

57. (New) Apparatus according to claim 54, wherein said grinding machine further comprises a first station and a second station.

58. (New) Apparatus according to claim 57, wherein said first station comprises a station for finish grinding said bearings.

59. (New) Apparatus according to claim 57, wherein said first station comprises a station for finish grinding said bearings and rough grinding said cams.

60. (New) Apparatus according to claim 58 or 59, wherein said straightening device is arranged in said first station.

61. (New) Apparatus according to claim 57 or 58, wherein said second station comprises a station for rough grinding and/or finish grinding said cams.

62. (New) Apparatus according to claim 61, wherein said straightening device is arranged in said second station.

63. (New) Apparatus according to claim 54, wherein the straightening device comprises a roll straightening head comprising at least one roller which engages the camshaft and the apparatus further comprises a drive for rotating the camshaft while the roll straightening head is in engagement with the camshaft.

64. (New) Apparatus according to claim 63, further comprising a grinding headstock and wherein the roll straightening head is attached to the grinding headstock and comprises two rollers for engaging the camshaft.

65. (New) Apparatus according to claim 54, wherein the straightening device comprises a pressure element for engaging the camshaft with straightening force while the camshaft is not rotated.

66. (New) Apparatus in accordance with claim 65, wherein the pressure element is of prismatic shape having a recess for receiving one of the bearings of the camshaft and engaging said one bearing with straightening force at at least two circumferentially spaced locations.

67. (New) Apparatus in accordance with claim 65, wherein the pressure element has a substantially flat surface for engaging the camshaft with straightening force at one location.